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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,073	04/14/2006	Shinta Miyazumi	512-46131X00	7354
20457 7590 04/09/2009 ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-3873				
EXAMINER				
SANDERS, JAMES M				
ART UNIT		PAPER NUMBER		
1791				
MAIL DATE		DELIVERY MODE		
04/09/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/576,073

Applicant(s)

MIYAZUMI ET AL.

Examiner

JAMES SANDERS

Art Unit

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

1. In the reply filed January 6, 2009 there were no changes to the claims.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
4. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi (JP 2002-052659 A, already of record) and further in view of Kageyama (JP 2002-307506 A, already of record).
 5. For claim 1, Hayashi teaches preparing a multilayer structure product comprising a step of feeding saponified EVOH (Examiner notes that ethylene/vinyl acetate copolymer is referred to as EVOH in abbreviation in the Specification) and other resins to a melt-molding machine ([0007] and [0010]).

6. Hayashi does not teach a step of leaving the melt residing in the melt-molding machine at a temperature lower by 0 to 100 C than a melt-molding temperature throughout the period from ceasing a melt-molding process after conducting the melt-molding process for a certain time to restarting the melt-molding process.

However, in the same field of endeavor pertaining to melt molding, Kageyama teaches a melt-molding machine having a step of leaving the melt residing in the melt-molding machine at a lower temperature than a melt-molding temperature throughout the period from ceasing a melt-molding process after conducting the melt-molding process for a certain time to restarting the melt-molding process ([0003], [0005], [0021] and Figure 4, i.e. the optimal temperature width lowered from a molding temperature is inputted, preset temperature is lowered uniformly and insulation temperature can be set up...of an injection molding machine into a hot insulation state). Although Kageyama does not teach lowering the temperature specifically by 0 to 100 C, given that he teaches lowering the temperature by some amount it would have been obvious to one of ordinary skill in the art at the time the invention was made to explore lowering the temperature including within the range of 0 to 100 C since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. One would have been motivated to perform routine experimentation for the purpose of optimizing process parameters. Please see *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 for further details.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Hayashi with those of Kageyama for the benefits of being able to leave material in the machine during periods of suspended operation to realize greater operational efficiency, convenience and lower costs through less waste produced in manufacturing multilayer structure products, especially since Kageyama points out the effect that power dissipation is reducible via use of his invention ([0021]).

For claim 2, the previous combination does not explicitly teach that the volume of EVOH and other resins released from a die slip part throughout the period from ceasing a melt-molding process to restarting the melt-molding process is 2 to 30% by volume based on the capacity of the die. However, given that Kageyama teaches leaving melt in the molding machine, it would have been obvious to one of ordinary skill in the art at the time the invention was made to investigate the amount of melt left in the machine (or 100 percent minus the percentage released, in other words), since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. One would have been motivated to perform routine experimentation for the purpose of optimizing process parameters. Please see *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 for further details.

For claim 3, Hayashi teaches including a range within 10 to 5000 ppm of a boron compound in the EVOH ([0020], i.e. When blending a boron compound, 20-2000 ppm of content of a boron compound is 50-1000 ppm more preferably in boron element conversion).

For claim 4, the previous combination does not explicitly teach that a melt-viscosity ratio of the EVOH (viscosity after standing at 190 C for 4 hours/viscosity after standing at 190 C for 24 hours) is 0.5 to 10. However, one having ordinary skill in the art would recognize that melt viscosity is inherent to the temperature and time of the melt standing in the machine that Kageyama related and one would have been motivated to perform routine experimentation for the purpose of optimizing process parameters. It has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. Please see *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 for further details.

For claim 5, Hayashi teaches that the multilayer structure product is a container for fuel ([0001], i.e. invention relates to the fuel container).

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi, further in view of Kageyama, and further in view of Hamaguchi (JP 2003-192016 A, already of record).
8. The previous combination does not teach that the molding process is direct-blow molding.
9. However, in the same field of endeavor pertaining to multilayer melt molding with EVOH, Hamaguchi teaches multilayer blow molding ([0005], i.e. the conventional multilayer blow molding) for making a container product have an EVOH layer.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Hamaguchi with those of the previous

combination because Hamaguchi identified blow molding as a conventional method of EVOH molding, and one could seek the typical benefits in terms of already minimized costs and greater operational efficiencies of using such an established, conventional method.

Response to Arguments

Applicant's arguments filed January 6, 2009 were fully considered and are not persuasive.

Applicant asserts that Kageyama only discloses a heat-retention temperature and its process and is without reference to EVOH, and there are no disclosures of holding the temperature of the melt-molding machine exactly as claimed in the present invention, that is, 0 to 100 C lower than the melt-molding temperature. Though these assertions are correct, it also true that, because Kageyama, in the same field of endeavor pertaining to melt molding, teaches lowering the temperature by some amount, it would have been obvious to one of ordinary skill in the art at the time the invention was made to explore lowering the temperature including within the range of 0 to 100 C since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. One would have been motivated to perform routine experimentation for the purpose of optimizing process parameters.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES SANDERS whose telephone number is 571-270-7007. The examiner can normally be reached on Monday through Friday, 8 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Del Sole can be reached on 571-272-1130. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JMS

/Joseph S. Del Sole/
Supervisory Patent Examiner, Art Unit 1791